SEQUENCE LISTING

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क् अंधि भू

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ata tat cac agc Ile Tyr His Ser	ctg tct c Leu Ser A 565	egt gee ega Arg Ala Arg	ccc cgt Pro Arg 570	tgg ttc Trp Phe	atg ttg Met Leu 575	tgc 1728 Cys	
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<pre>Add Ser Met Ser Ala Glu Glu Ser 20 Arg His His Ser 35 Arg Gln Lys Lys</pre>	Tyr Thr 15 Lys Leu F Met Val 1	Pro Ile Ass 25 Tyr Ser Th: 40 Phe Asp Are	10 n Pro Leu r Thr Ser g Leu Gln	Ser Asn Arg Ser 45 Val Leu 60	Ser Leu 30 Ala Ser Asp Asp	Leu Leu His	
<pre>Add Ser Met Ser Met Ser Met Ser Ala Glu Glu Ser 20 Arg His His Ser 35 Arg Gln Lys Lys 50 Tyr Arg Asp Val</pre>	Tyr Thr 75 Lys Leu E Met Val 7 Val Thr E Leu Lys 0	Pro Ile Ass 25 Tyr Ser Th: 40 Phe Asp Arc	10 Pro Leu Thr Ser G Leu Gln S Ala Lys 75	Ser Asn Arg Ser 45 Val Leu 60 Ala Ser	Ser Leu 30 Ala Ser Asp Asp Thr Val	Leu His Lys	
<pre>Add Add Add Add Add Add Add Add Add Add</pre>	Tyr Thr 75 Lys Leu E Met Val 7 Val Thr E Leu Lys 0 70 Ser Ile 0	Pro Ile Ass 25 Tyr Ser Th: 40 Phe Asp Arc 55 Glu Met Ly:	10 Pro Leu Thr Ser G Leu Gln S Ala Lys 75 Cys Lys 90 Ala Lys	Ser Asn Arg Ser 45 Val Leu 60 Ala Ser Leu Thr	Ser Leu 30 Ala Ser Asp Asp Thr Val Pro Pro 95	Leu Leu His Lys 80 His	
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Glu Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser Pro 475 Gly Glu Ile Asn Arg Val Ala Ser Cys Leu Arg Lys Leu Gly Val Pro 490 Pro Leu Arg Val Trp Arg His Arg Ala Arg Ser Val Arg Ala Lys Leu 505 Leu Ser Gln Gly Gly Arg Ala Ala Thr Cys Gly Lys Tyr Leu Phe Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala Ser 535 Gln Leu Asp Leu Ser Gly Trp Phe Val Ala Gly Tyr Asn Gly Gly Asp 550 Ile Tyr His Ser Leu Ser Arg Ala Arg Pro Arg Trp Phe Met Leu Cys 565 Leu Leu Leu Ser Val Gly Val Gly Ile Tyr Leu Leu Pro Asn Arg <210> <211> 1344 <212> DNA <213> Artificial sequence <220> <223> sequence coding for NS5a <220> <221> CDS <222> (1)..(1344)<223> <400> 5 atg tcc ggc tcg tgg cta agg gat gtt tgg gac tgg ata tgc acg gtg 48 Met Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val ttg act gac ttc aag acc tgg ctc cag tcc aag ctc ctg ccg aaa ttg 96 Leu Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Lys Leu 20 ccg gga gtc cct ttc ttc tca tgc caa cgc ggg tac aag gga gtc tgg 144 Pro Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp 35 cgg ggg gac ggc atc atg caa acc acc tgc cca tgt gga gca caa att 192 Arg Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile 50 55 acc gga cat gtc aaa aac ggt tcc atg agg atc gtt ggg cct aaa acc 240 Thr Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Lys Thr 65

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	att Ile 210															672
	tcc Ser															720
	gca Ala															768
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	gag Glu															864
	gcg Ala 290															912
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7			m1	Thr	Cue	Dro	Cvc	Glv	Δla	Gln	T1_	
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3

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Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu 135 Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp 155 Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile 170 Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Ile Pro Ala Ser Ala Tyr 185 Glu Val Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys Ser 200 Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Met Ile Met His Thr Pro 215 Gly Cys Val Pro Cys Val Arg Glu Ser Asn Phe Ser Arg Cys Trp Val 230 235 Ala Leu Thr Pro Thr Leu Ala Ala Arg Asn Ser Ser Ile Pro Thr Thr 245 Thr Ile Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Ala Leu Cys 265 Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Ser Gln Leu Phe Thr Phe Ser Pro Arg Arg Tyr Glu Thr Val Gln Asp Cys 295 Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala Trp 315 Asp Met Met Met Asn Trp Ser Pro Thr Thr Ala Leu Val Val Ser Gln 330 Leu Leu Arg Ile Pro Gln Ala Val Val Asp Met Val Ala Gly Ala His 345 Trp Gly Val Leu Ala Gly Leu Ala Tyr Tyr Ser Met Val Gly Asn Trp 360 Ala Lys Val Leu Ile Val Met Leu Leu Phe Ala Gly Val Asp Gly His 375 Thr His Val Thr Gly Gly Arg Val Ala Ser Ser Thr Gln Ser Leu Val 390 395 Ser Trp Leu Ser Gln Gly Pro Ser Gln Lys Ile Gln Leu Val Asn Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala Leu Asn Cys Asn Asp Ser

425

Leu Gln Thr Gly Phe Ile Ala Ala Leu Phe Tyr Ala His Arg Phe Asn 440 Ala Ser Gly Cys Pro Glu Arg Met Ala Ser Cys Arg Pro Ile Asp Lys 455 Phe Ala Gln Gly Trp Gly Pro Ile Thr His Val Val Pro Asn Ile Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala Pro Gln Pro Cys Gly Ile 490 Val Pro Ala Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser 505 Pro Val Val Gly Thr Thr Asp Arg Ser Gly Val Pro Thr Tyr Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu Leu Asn Asn Thr Arg Pro 535 Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Ser Thr Gly Phe 550 555 Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn Ile Gly Gly Val Gly Asn Asn Thr Leu Ile Cys Pro Thr Asp Cys Phe Arg Lys His Pro Glu Ala Thr Tyr Thr Lys Cys Gly Ser Gly Pro Trp Leu Thr Pro Arg Cys Leu 595 Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Ile Asn Phe 615 Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Val Glu His Arg Leu Asn Ala Ala Cys Asn Trp Thr Arg Gly Glu Arg Cys Asp Leu Glu Asp 650 Arg Asp Arg Ser Glu Leu Ser Pro Leu Leu Leu Ser Thr Thr Glu Trp Gln Val Leu Pro Cys Ser Phe Thr Thr Leu Pro Ala Leu Ser Thr Gly 680 Leu Ile His Leu His Gln Asn Ile Val Asp Val Gln Tyr Leu Tyr Gly 695 Val Gly Ser Val Val Val Ser Val Val Ile Lys Trp Glu Tyr Val Leu 710 Leu Leu Phe Leu Leu Ala Asp Ala Arg Val Cys Ala Cys Leu Trp Met Met Leu Leu Ile Ala Gln Ala Glu Ala

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